

the gaster and holding it erect, which gives them a very un-*Camponotus*-like appearance.

21. *Camponotus (Orthonotomyrmex) lateralis*, Ol.—On January 30th a large colony of this really beautiful ant—with its bright red head contrasted with its shining black body—was found under a stone at the foot of an olive tree. It contained many ♀ ♀ and larvae, and numerous ♂ ♂ and winged ♀ ♀. A large *Lepisma* was taken in this nest, and small *Acari* were noticed on some of the ♀ ♀. A colony, which also contained ♂ ♂ and winged ♀ ♀, was situated under the same stone as *Pheidole pallidula* at Ospedaletti on February 6th. When disturbed the *Pheidoles* attacked the *Camponoti* with the greatest fury, numbers of them fastening on to their legs, wings, and antennae. Various other colonies were subsequently found. In one situated in an olive tree, a queen and many winged ♀ ♀ were present; in another under a stone, only ♂ ♂, and no winged ♀ ♀, occurred. A colony between two stones contained a queen, many large ♀ ♀, and larvae; but no winged sexes were present.

22. *Acanthomyops (Donisthorpea) emarginatus*, Ol.—At Sasso, on February 10th, ♀ ♀ of this species were observed walking along on a stone wall; and the nest was found to be situated under stones at the foot of the wall. On March 6th ♀ ♀ were noticed on the walls of the ruined castle at Dolceacqua; and in larger numbers on walls on the outskirts of the town.

23. *Acanthomyops (Donisthorpea) brunneus*, Latr. ?—On February 6th a large colony of this ant was found under a stone at Ospedaletti. In the field I took them to be *A. (D.) niger*. A ♀ was captured running over the root of an olive tree at Bordighera; and two large colonies occurred under stones on the highest part of Monte Nero on February 24th. Again I took them to be *A. (D.) niger*; and I am very well acquainted with *A. (D.) brunneus* in England! They are much darker than our species, the head is quite black, and the rest of the body dark brown; but there are no outstanding hairs on the tibiae. I propose to call them *A. (D.) brunneus* var. *nigro-brunneus*. They are perhaps the same form (from Genoa) which Emery (*l.c.* 167) doubtfully referred to var. *alieno-brunnea*, Forel.

24. *Formica fusca*, L.—on March 6th a colony was found under a stone at Dolceacqua; but I never observed the species at Bordighera. In this nest the small spider, and a specimen of *Anthicus longicollis* occurred. I may here mention that though I was collecting Coleoptera all the time I was at Bordighera and took every species I saw, the only occasions on which I saw any *Anthici* were when examining ants' nests!

In conclusion I must express my best thanks to my colleague Dr. F. Santschi for naming some of the more difficult forms.

### Myrmecophilous Notes for 1925.

By HORACE DONISTHORPE, F.Z.S., F.E.S., etc.

I have written a separate account of the work done in connection with the ant *Acanthomyops (Donisthorpea) brunneus*, Latr., but a few other observations, and records with ants, still remain to be published.

## FORMICIDAE.

The following species of ants were noticed at Charmouth early in the year—*Myrmecina graminicola*, Latr., *Myrmica ruginodis*, Nyl., *M. scabrinodis*, Nyl., *Tetramorium caespitum*, L., *A. (D.) niger*, L., *A. (C.) flavus*, F., *A. (C.) umbratus*, Nyl., *Formica fusca*, L., and *F. fusca* var. *rubescens*, Forel.

*Myrmecina graminicola*, Latr.—In 1925 no females were reared in my colony of this species, which I have had under observation for over 15 years. I account for this by the fact that in the winter of 1924-5 the ants were not fed at all, and were kept in a cold room, the nest only being watered occasionally. The colony is nevertheless in a flourishing condition.

*Formica pratensis*, Retz.—When at Bournemouth in September last, I determined to try and find the nest of *F. pratensis*, mentioned and figured in *British Ants* (p. 270, and Plt. XVI.) Much building has taken place since I was there last, in 1914, and the original spot by the side of a road had been turned into an ornamental border, and planted with rows of trees, but quite close at hand at the entrance to what is left of the Talbot Woods, I found a large *pratensis* nest at the foot of a fir tree. Subsequently other nests were found near houses at the edge of the woods; one colony occupying a deserted *F. exsecta* nest. It is fortunate that *F. pratensis* will live nearer to human habitations than *F. rufa* (and is much more tolerant of such situations than *F. exsecta*), and this no doubt has saved it from extinction in its old locality. On sieving a small quantity of the first nest, the following myrmecophiles were observed:—*Oxyptoda formiceticola*, Märk., *O. haemorrhoea*, Sahl., *Leptacinus formicetorum*, Märk., *Trichopteryx montandoni*, All., *Ptenidium myrmecophilum*, Mots., *Monotoma conicicollis*, Aub., *Cyphodeirus albinos*, Nic.; and *Thyreosthenius biovata*, Camb.

## INTRODUCED SPECIES.

*Cremastogaster lineolata*, Say.—Saunt sent me a number of ♂♂ of this ant taken on American Ash in a timber yard at Coventry, on April 28th, 1925. It is found in the United States and Canada.

*Pheidole megacephala*, F., var. *punctulata*, Mayr.—Saunt sent me 2♂♂, and ♀♀ taken in a timber yard at Coventry, on August 12th, 1925.

*Camponotus (Myrmentoma) caryae*, A. Fitch, subsp. *rasilis*, Wheeler, var. *pavidus*, Wheeler.—Saunt sent me some soldiers and workers of this var., which he had found in American Ash in a timber yard at Coventry on May 9th, 1925. Being too busy at the time to try and name them, I sent specimens to several myrmecologists without much success—Santschi told me he had not got it in his collection, and Crawley suggested that I should describe it as a new species in the subgenus *Myrmophyma*, etc.—I therefore sent specimens to Wheeler who tells me it is the above variety. It is curious that I should not have thought of looking in my introduced drawer, as I possess ♂, ♀, and ♀♀ from Hereford taken in 1911 (see *Brit. Ants.* p. 348), moreover I had correctly named the specimens in question myself with Wheeler's monograph on the American *Camponotini*.

*Camponotus (Myrmotherix) abdominalis*, F.—Massee sent me a number of 2♂♂ and ♂♀ found in a bunch of bananas at Malling, in October, 1925.

## COLEOPTERA.

*Myrmedonia humeralis*, Gr.—A specimen was taken on July 29th, in the nest of *A. (D.) fuliginosus* in the birch tree at Pyrford Common which I have visited for so many years. This makes the 38th species of myrmecophile taken in this nest.

*Myrmedonia limbata*, Pk.—Found on May 13th, running in company with ♂♂ of *A. (D.) niger*, in a sand pit at Freckenham.

*Drusilla canaliculata*, F.—Specimens were observed running about in the sand in company with ♂♂ of *A. (D.) niger* and *M. scabrinodis* at Charmouth on May 23rd.

*Atheta sodalis*, Er.—Taken in a nest of *A. (D.) niger* in Windsor Forest on August 26th. I have found this beetle previously with *F. rufa*, *A. (D.) brunneus*, etc.

*Amphotis marginata*, F.—Several specimens found in the *fuliginosus* nest at Pyrford on July 29th, were taken home, and introduced into my *brunneus* observation nest. At first they were received with considerable hostility by the *brunneus* ♂♂, who persistently attacked them, but they were protected by their shape, and the way in which they can contract their antennae, and legs. Some of them are still alive to-day (February 1st) in the nest. They rest beneath the wood and frass in the nest, though they occasionally come out for a stroll. They feed on the honey, flies, etc., given to the ants. The *brunneus* ♂♂ sometimes still try to attack them in a half-hearted manner, but soon give it up. Once or twice I have seen *brunneus* ♂♂ gently scrape the back of an *Amphotis*, as do their true hosts (*fuliginosus*); but I have never observed them attempting to feed the beetle. This of course may frequently be seen if one keeps *Amphotis* in a *fuliginosus* observation nest.

*Stenosis angustata*, v. *intermedia*, Sol.—Mr. H. Main kindly gave me a number of live examples of this Continental beetle which he had taken in company with ants at Le Lavandou on September 25th, 1925. They reminded me at once of the little *Dichillus minutus*, Sol., which I took with *Pheidole pallidula* at Bordighera in March, 1925, and indeed they are extremely like it, though of course very much larger in size. Both genera belong to the tribe *Stenosini* in the family *Tenebrionidae*. Wasmann [*Krit. Ver. Myr. Ter. Arth.* 156 (1894)] mentions a *Dichillus algericus*, Luc., found in nests of *Cataglyphis viaticus*, F., in Algeria, and "only with ants" in Spain; but he suggests that *Stenosis* sps. are only "chance guests." From my experiments with these beetles however I am of the opinion that they are undoubtedly myrmecophilous. I may mention that they are extremely hard and tenacious of life. I had, as I thought, killed two specimens with boiling water from the "Geyser," and after mounting them on card, I put them away in a box. A fortnight later, when I chanced to look at them again, the unfortunate beetles were seen to be moving their bodies from side to side, although their legs and antennae remained stuck to the card. I quickly unstuck them and washed them with water, when they walked about as if nothing had happened. They were then put into my *brunneus* observation nest, where they have lived ever since. I had previously, on October 6th, introduced two *Stenosis* into this nest. The ants never attempted to attack them, but from the very first seemed to accept them as a natural and proper object to be in the

nest! These three beetles have now lived quietly in this nest for over three months.

On October 8th, I placed a *Stenosia* in my *Myrmecina* nest. These ants always kill and eat any insect given to them, but they seemed helpless against this beetle. On November 1st, I removed it, as it was devouring the ants' larvae, and moreover had nipped off the tips of several of the ants' antennae, thereby rendering them unable to find their way about, etc. On the same day I had introduced one of these beetles into my *Stenamma westwoodi* nest. The ants attacked the beetle, but their mandibles appeared to have no effect on its hard body and it always got away. On October 21st, I found it had seized a *Stenamma* larva which it was dragging along, while two *Stenamma* ♂ & ♀ were in vain lustily tugging at the larva to endeavour to get it away from the *Stenosia*. In this case also it was considered advisable to remove the beetle. It is much to be regretted that Main did not find out the name of the ants with which he found these beetles.

#### DIPTERA.

*Pseudacteon brevicauda*, Schmitz.—The specimens of *Pseudacteon* captured by me with *Myrmica ruginodis* in Windsor Park, 7.VII.24 and recorded as *P. formicarum*, Ver. [*Ent. Rec.*, 37 5-6 (1925)], are really *P. brevicauda* a species new to Britain, recently described by H. Schmitz from Saxony [*Soc. Ent.* 40 23 (1925)].

#### ARANEINA.

*Synageles oenutor*, Luc.—A number of examples of this ant-like spider was observed at Charmouth, in June, running on the sand and under the sedge on the under cliff in company with numerous ♂ & ♀ of *Myrmica scabrinodis* and *A. (D.) niger*.

*Myrmarachne formicaria*, De G.—On June 9th, I discovered a fine colony of *Formica fusca* v. *rubescens*, Forel., inhabiting a bank facing east on the undercliff at Charmouth. The situation of the nest was traced by tracking workers (mostly large and very red in colour), which kept bringing up prey, chiefly *Hypera* larva, green with a white stripe (probably that of *H. plantaginis*). Having dug up the nest, and captured a typical *rubescens* queen, I was sitting watching the ants all hurrying about, when I noticed, what looked like, one of the redder ♂ & ♀ running in company with them. Its appearance and movements were just like those of the ants, yet something caused me to quickly bottle it; when I found it was a spider coloured red and black like the ants. On sending it to Randell Jackson it proved to be a fine ♂ of the above spider. I have twice before taken this rare species—a ♂ and 2 ♀ & ♀ with *Myrmica scabrinodis* at Sandown, I. of W., on August 26th, 1908, and a ♂ with the same species of ant at Luccombe Chine, on August 27th, 1909, but on each occasion the spiders were smaller (not adults), being the size and colour of the *Myrmica*.

#### CRUSTACEA.

*Platyarthus hoffmanseggi*, Brdt.—On May 23rd, this little myrmecophilous "wood-louse" was observed in numbers, very large specimens being present, in a nest of *F. fusca*, situated under a large stone on the under-cliff at Charmouth.